



CONTAINS NO COPY
GE Aerospace

Aircraft Control Systems Department
General Electric Company
P.O. Box 5000, Binghamton, NY 13902

Dial Comm:

March 20, 1990

U.S. Environmental Protection Agency
401 M Street, SE
Washington, D.C. 20460

Attn: CAIR Reporting Office

The attached CAIR report is being submitted in accordance with 40 CFR Part 704 for the General Electric Facility located in Johnson City, NY.

If you have any questions or comments please contact David Minerley, Safety and Environmental Specialist at 607-770-2000.

Thank You:

David M. Minerley, Safety and Environmental Specialist

OTS DOCUMENT RECEIPT OF
91 APR -9 AM 9:30



Form Approved
OMB No. 2010-0019
Approval Expires 12-31

CONTAINS NO CBI

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91 APR -9 AM 9:30

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Comprehensive Assessment Information Rule
REPORTING FORM

When completed, send this form to:

Document Processing Center
Office of Toxic Substances, TS-790
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460
Attention: CAIR Reporting Office

For Agency Use Only:

Date of Receipt: _____

Document
Control Number: _____

Docket Number: _____

EPA Form 7710-52

90-910000008



001034947S

SECTION 1 GENERAL MANUFACTURER, IMPORTER, AND PROCESSOR INFORMATION

PART A GENERAL REPORTING INFORMATION

1.01 This Comprehensive Assessment Information Rule (CAIR) Reporting Form has been

completed in response to the Federal Register Notice of..... 1/2/22 8/8
CBI mo. day year

☐ a. If a Chemical Abstracts Service Number (CAS No.) is provided in the Federal Register, list the CAS No. 000587-87-7

b. If a chemical substance CAS No. is not provided in the Federal Register, list either (i) the chemical name, (ii) the mixture name, or (iii) the trade name of the chemical substance as provided in the Federal Register.

(i) Chemical name as listed in the rule NA

(ii) Name of mixture as listed in the rule

(iii) Trade name as listed in the rule

c. If a chemical category is provided in the Federal Register, report the name of the category as listed in the rule, the chemical substance CAS No. you are reporting on which falls under the listed category, and the chemical name of the substance you are reporting on which falls under the listed category.

Name of category as listed in the rule NA

CAS No. of chemical substance 000000-00-0

Name of chemical substance

1.02 Identify your reporting status under CAIR by circling the appropriate response(s).

☒ Manufacturer

☐ Importer

☒ Processor Reporting Status Is Processor

X/P manufacturer reporting for customer who is a processor

X/P processor reporting for customer who is a processor

☐ Mark (X) this box if you attach a continuation sheet.

1.03 Does the substance you are reporting on have an "x/p" designation associated with it in the above-listed Federal Register Notice?

CBI

☐ Yes ☒ Go to question 1.

☐ No ☐ Go to question 1.

1.04 a. Do you manufacture, report, or process the listed substance and distribute it under a trade name(s) different than that listed in the Federal Register Notice? Circle the appropriate response.

CBI

☐ Yes

☒ No No

b. Check the appropriate box below:

☐ You have chosen to notify your customers of their reporting obligations

Provide the trade name(s) NA

☐ You have chosen to report for your customers

☐ You have submitted the trade name(s) to EPA one day after the effective date of the rule in the Federal Register Notice under which you are reporting.

1.05 If you buy a trade name product and are reporting because you were notified of your reporting requirements by your trade name supplier, provide that trade name.

CBI

☐ Trade name Eccofoam FPH, Stepanfoam BH-614-T

☐ Is the trade name product a mixture? Circle the appropriate response.

☒ Yes

☐ No

1.06 Certification -- The person who is responsible for the completion of this form must sign the certification statement below:

CBI

☐ "I hereby certify that, to the best of my knowledge and belief, all information entered on this form is complete and accurate."

David Minerley
NAME

David Minerley
SIGNATURE

12/19/90
DATE SIGNED

Safety & Environ. Spec.
TITLE

(607) 770 - 2696
TELEPHONE NO.

☐ Mark (X) this box if you attach a continuation sheet.

- 1.07 Exemptions From Reporting -- If you have provided EPA or another Federal agency with the required information on a CAIR Reporting Form for the listed substance within the past 3 years, and this information is current, accurate, and complete for the time period specified in the rule, then sign the certification below. You are required to complete section 1 of this CAIR form and provide any information now required but not previously submitted. Provide a copy of any previous submissions along with your Section 1 submission.

"I hereby certify that, to the best of my knowledge and belief, all required information which I have not included in this CAIR Reporting Form has been submitted to EPA within the past 3 years and is current, accurate, and complete for the time period specified in the rule."

NA

NAME	SIGNATURE	DATE SIGNED
TITLE	() TELEPHONE NO.	DATE OF PREVIOUS SUBMISSION

- 1.08 CBI Certification -- If you have asserted any CBI claims in this report you must certify that the following statements truthfully and accurately apply to all of those confidentiality claims which you have asserted.

CBI

[]

"My company has taken measures to protect the confidentiality of the information, and it will continue to take these measures; the information is not, and has not been, reasonably ascertainable by other persons (other than government bodies) by using legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding) without my company's consent; the information is not publicly available elsewhere; and disclosure of the information would cause substantial harm to my company's competitive position."

NA

NAME	SIGNATURE	DATE SIGNED
TITLE	() TELEPHONE NO.	

[] Mark (X) this box if you attach a continuation sheet.

1.11 Parent Company Identification

CBI Name [G][E][N][E][R][A][L][][E][L][E][C][T][R][I][C][][][][][][][][][][][][][][][][]
[][] Address [C][O][O][][M][A][I][N][][S][T][][][][][][][][][][][][][][][]
Street
[J][O][H][N][S][O][N][][C][I][T][Y][][][][][][][][][][][][][][][]
City
[N][Y] [1][3][7][9][0]--[][][][]
State Zip
Dun & Bradstreet Number[0][0]-[2][2][3]-[5][1][8][2]

1.12 Technical Contact

CBI Name [D][A][V][I][D] [M][I][N][E][R][L][E][Y] [][][][][][][][][][][][][][][][]
[][] Title [S][A][F][E][T][Y] [I] [E][N][V][I][R][O][N.] [S][P][E][C]. [][][][][][][][][][][][][][][][]
Address [G][O][O] [M][A][I][N] [S][T][R][E][E][T] [][][][][][][][][][][][][][][][]
Street
[J][O][H][N][S][O][N] [C][I][T][Y] [][][][][][][][][][][][][][][][]
City
[N][Y] [1][3][7][9][0]--[][][][][][]
State Zip
Telephone Number [G][O][7]-[7][7][0]-[2][0][0][0]

1.13 This reporting year is from (0)(7) (8)(8) to (7)(2) (8)(8)
Mo. Year Mo. Year

☐ Mark (X) this box if you attach a continuation sheet.

1.14 Facility Acquired -- If you purchased this facility during the reporting year, provide the following information about the seller:

CBI Name of Seller []

() Mailing Address () () () () () () () () () () () () () ()
Street

[illegible]

() () () () () () () -- () () ()
State Zip

Employer ID Number() () () () () () ()

Date of Sale () () ()
Mo. Day i

Contact Person ([] [] [] [] [] [] [] [] [] [] [] [] [] [] [] [] [] [] [] [])

Telephone Number () () () - () () () - () () ()

1.15 Facility Sold -- If you sold this facility during the reporting year, provide the following information about the buyer:

[illegible][illegible][illegible]

() () () () () () () -- () () ()
State Zip

Employer ID Number() () () () () () () ()

Date of Purchase [] [] [] [] [] []
Mo. Day Y.

[illegible]

Telephone Number() () () -() () () -() () ()

☐ Mark (X) this box if you attach a continuation sheet.

1.16 For each classification listed below, state the quantity of the listed substance that was manufactured, imported, or processed at your facility during the reporting year

CBI

☐

Classification

Quantity (kg)

Manufactured NA

Imported NA

Processed (include quantity repackaged) 20.3

Of that quantity manufactured or imported, report that quantity:

In storage at the beginning of the reporting year NA

For on-site use or processing

For direct commercial distribution (including export)

In storage at the end of the reporting year

Of that quantity processed, report that quantity:

In storage at the beginning of the reporting year ("U.K.")

Processed as a reactant (chemical producer) 0

Processed as a formulation component (mixture producer) 0

Processed as an article component (article producer) 20.3

Repackaged (including export) 0

In storage at the end of the reporting year ("U.K.")

☐ Mark (X) this box if you attach a continuation sheet.

PART C IDENTIFICATION OF MIXTURES

- 1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

CBI

☐

	Component Name	Supplier Name	Average % Composition by Weight (specify precision. e.g., 45% ± 0.5%)
Stepanfoam BH-614-T	2,4-Toluene Diisocyanate	Stepan Co.	74%
	2,6-Toluene Diisocyanate	Stepan Co.	18%
	("U.K.")	Stepan Co.	8%
Eccofoam FPH	Toluene Diisocyanate	Emerson-Cummings	25-35%
	TDI Based Prepolymer	Emerson-Cummings	65-75%
Total			100%

☐ Mark (X) this box if you attach a continuation sheet.

2.04 State the quantity of the listed substance that your facility manufactured, imported or processed during the 3 corporate fiscal years preceding the reporting year in descending order.

CBI

☐ Year ending 1121 87
Mo. Year

Quantity manufactured NA k

Quantity imported NA k

Quantity processed ≈ 47 k

Year ending 1121 86
Mo. Year

Quantity manufactured NA k

Quantity imported NA k

Quantity processed ≈ 33 k

Year ending 1121 85
Mo. Year

Quantity manufactured NA k

Quantity imported NA k

Quantity processed ("U.K.") k

2.05 Specify the manner in which you manufactured the listed substance. Circle all appropriate process types.

CBI

NA

☐ Continuous process

Semicontinuous process

Batch process

☐ Mark (X) this box if you attach a continuation sheet.

2.06 Specify the manner in which you processed the listed substance. Circle all appropriate process types.

☐

Continuous process

NA

Semicontinuous process

☒ Batch process

2.07 State your facility's name-plate capacity for manufacturing or processing the listed substance. (If you are a batch manufacturer or batch processor, do not answer this question.)

CBI

☐

Manufacturing capacity

NA

kg

Processing capacity

"U.K."

kg

2.08 If you intend to increase or decrease the quantity of the listed substance manufactured, imported, or processed at any time after your current corporate fiscal year, estimate the increase or decrease based upon the reporting year's production volume.

CBI

☐

	Manufacturing Quantity (kg)	Importing Quantity (kg)	Processing Quantity (kg)
Amount of increase	NA	NA	NA
Amount of decrease	NA	NA	"U.K."

☐ Mark (X) this box if you attach a continuation sheet.

- 2.09 For the three largest volume manufacturing or processing process types involving the listed substance, specify the number of days you manufactured or processed the listed substance during the reporting year. Also specify the average number of hours per day each process type was operated. (If only one or two operations are involved, list those.)

CBI

☐

	<u>Days/Year</u>	<u>Average Hours/Day</u>
Process Type #1 (The process type involving the largest quantity of the listed substance.)		
Manufactured	<u>NA</u>	<u> </u>
Processed	<u>~250</u>	<u>8</u>
Process Type #2 (The process type involving the 2nd largest quantity of the listed substance.)		
Manufactured	<u>NA</u>	<u> </u>
Processed	<u>NA</u>	<u> </u>
Process Type #3 (The process type involving the 3rd largest quantity of the listed substance.)		
Manufactured	<u>NA</u>	<u> </u>
Processed	<u>NA</u>	<u> </u>

- 2.10 State the maximum daily inventory and average monthly inventory of the listed substance that was stored on-site during the reporting year in the form of a bulk chemical.

CBI

☐

Maximum daily inventory	<u>("U.K.")</u>
Average monthly inventory	<u>("U.K.")</u>

☐ Mark (X) this box if you attach a continuation sheet.

- 2.11 Related Product Types -- List any byproducts, coproducts, or impurities present with the listed substance in concentrations greater than 0.1 percent as it is manufactured, imported, or processed. The source of byproducts, coproducts, or impurities means the source from which the byproducts, coproducts, or impurities are made or introduced into the product (e.g., carryover from raw material, reaction product, etc.).

CBI

☐

CAS No.	Chemical Name	Byproduct, Coproduct, or Impurity ¹	Concentration (%) (specify ± % precision)	Source of Byproducts, Coproducts, or Impurities
91-08-7	2,6-Toluene Diisocyanate	I	("U.K.")	Raw Matl.

¹Use the following codes to designate byproduct, coproduct, or impurity:

B = Byproduct
C = Coproduct
I = Impurity

☐ Mark (X) this box if you attach a continuation sheet.

- 3.12 Existing Product Types -- List all existing product types which you manufactured, imported, or processed using the listed substance during the reporting year. List the quantity of listed substance you use for each product type as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI

☐

a. Product Types ¹	b. % of Quantity Manufactured, Imported, or Processed	c. % of Quantity Used Captively On-Site	d. Type of End-Users
L	100%	0%	H

¹Use the following codes to designate product types:

- | | |
|--|--|
| A = Solvent | L = Moldable/Castable/Rubber and additives |
| B = Synthetic reactant | M = Plasticizer |
| C = Catalyst/Initiator/Accelerator/Sensitizer | N = Dye/Pigment/Colorant/Ink and additives |
| D = Inhibitor/Stabilizer/Scavenger/Antioxidant | O = Photographic/Reprographic chemical and additives |
| E = Analytical reagent | P = Electrodeposition/Plating chemicals |
| F = Chelator/Coagulant/Sequestrant | Q = Fuel and fuel additives |
| G = Cleanser/Detergent/Degreaser | R = Explosive chemicals and additives |
| H = Lubricant/Friction modifier/Antivear agent | S = Fragrance/Flavor chemicals |
| I = Surfactant/Emulsifier | T = Pollution control chemicals |
| J = Flame retardant | U = Functional fluids and additives |
| K = Coating/Binder/Adhesive and additives | V = Metal alloy and additives |
| | W = Rheological modifier |
| | X = Other (specify) |

²Use the following codes to designate the type of end-users:

- | | |
|-----------------|--|
| I = Industrial | CS = Consumer |
| CM = Commercial | H = Other (specify) <u>U.S. Government</u> |

☐ Mark (X) this box if you attach a continuation sheet.

- 2.13 Expected Product Types -- Identify all product types which you expect to manufacture, import, or process using the listed substance at any time after your current corporate fiscal year. For each use, specify the quantity you expect to manufacture, import, or process for each use as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI

☐

a.	b.	c.	d.
Product Types ¹	% of Quantity Manufactured, Imported, or Processed	% of Quantity Used Captively On-Site	Type of End-Users
L	100%	0%	H

¹Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

²Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CH = Commercial	H = Other (specify) <u>U.S. Government</u>

☐ Mark (X) this box if you attach a continuation sheet.

2.14 Final Product -- Complete the following table for each type of final product:
 CBI manufactured, imported, or processed at your facility that contains the listed
 substance other than as an impurity.

☐

a.	b.	c.	d.
Product Type ¹	Final Product's Physical Form ²	Average % Composition of Listed Substance in Final Product	Type of End-Users ³
	NA		

¹Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additive
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additive
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

²Use the following codes to designate the final product's physical form:

A = Gas	F2 = Crystalline solid
B = Liquid	F3 = Granules
C = Aqueous solution	F4 = Other solid
D = Paste	G = Gel
E = Slurry	H = Other (specify) _____
F1 = Powder	

³Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

2.15 Circle all applicable modes of transportation used to deliver bulk shipments of the
CBI listed substance to off-site customers.

☒ ~~Truck~~
Railcar
Barge, Vessel (NA)
Pipeline
Plane
Other (specify) _____

2.16 Customer Use -- Estimate the quantity of the listed substance used by your customer
or prepared by your customers during the reporting year for use under each category
CBI of end use listed (i-iv).

☐ (NA)
Category of End Use

i. Industrial Products

Chemical or mixture kg
Article kg

ii. Commercial Products

Chemical or mixture kg
Article kg

iii. Consumer Products

Chemical or mixture kg
Article kg

iv. Other

Distribution (excluding export) kg
Export kg
Quantity of substance consumed as reactant kg
Unknown customer uses kg

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 3 PROCESSOR RAW MATERIAL IDENTIFICATION

PART A GENERAL DATA

- 3.01 Specify the quantity purchased and the average price paid for the listed substance for each major source of supply listed. Product trades are treated as purchases.
 CBI The average price is the market value of the product that was traded for the listed substance.

☐

Source of Supply

Quantity
(kg)

Average Pri
(\$/kg)

The listed substance was manufactured on-site.

The listed substance was transferred from a different company site.

The listed substance was purchased directly from a manufacturer or importer.

The listed substance was purchased from a distributor or repackager.

20.3

("U.K.")

The listed substance was purchased from a mixture producer.

- 3.02 Circle all applicable modes of transportation used to deliver the listed substance
 CBI your facility.

☐

Truck

Railcar

Barge, Vessel

Pipeline

Plane

Other (specify)

☐ Mark (X) this box if you attach a continuation sheet.

3.03 a. Circle all applicable containers used to transport the listed substance to your facility.

CBI

☐

- Bags 1
- Boxes 2
- Free standing tank cylinders 3
- Tank rail cars 4
- Hopper cars 5
- Tank trucks 6
- Hopper trucks 7
- Drums 8
- Pipeline 9
- Other (specify) Metal Cans 10

b. If the listed substance is transported in pressurized tank cylinders, tank rail cars, or tank trucks, state the pressure of the tanks.

Tank cylinders mmHg

Tank rail cars NA mmHg

Tank trucks mmHg

☐ Mark (X) this box if you attach a continuation sheet.

PART C RAW MATERIAL VOLUME

3.05 State the quantity of the listed substance used as a raw material during the reporting year in the form of a class I chemical, class II chemical, or polymer, and the percent composition, by weight, of the listed substance.

☐

	Quantity Used (kg/yr)	% Composition by Weight of Listed Sub- stance in Raw Material (specify ± % precision)
Class I chemical	10	25-35%
	22.7	74%
Class II chemical		
Polymer		

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 4 PHYSICAL/CHEMICAL PROPERTIES

General Instructions:

If you are reporting on a mixture as defined in the glossary, reply to questions in Section 4 that are inappropriate to mixtures by stating "NA -- mixture."

For questions 4.06-4.15, if you possess any hazard warning statement, label, MSDS, or other notice that addresses the information requested, you may submit a copy or reasonable facsimile in lieu of answering those questions which it addresses.

PART A PHYSICAL/CHEMICAL DATA SUMMARY

- 4.01 Specify the percent purity for the three major¹ technical grade(s) of the listed substance as it is manufactured, imported, or processed. Measure the purity of the substance in the final product form for manufacturing activities, at the time you import the substance, or at the point you begin to process the substance.

CBI

☐

("NA - Mixture")

	<u>Manufacture</u>	<u>Import</u>	<u>Process</u>
Technical grade #1	_____ % purity	_____ % purity	_____ % purit
Technical grade #2	_____ % purity	_____ % purity	_____ % purit
Technical grade #3	_____ % purity	_____ % purity	_____ % purit

¹Major = Greatest quantity of listed substance manufactured, imported or processed.

- 4.02 Submit your most recently updated Material Safety Data Sheet (MSDS) for the listed substance, and for every formulation containing the listed substance. If you possess an MSDS that you developed and an MSDS developed by a different source, submit your version. Indicate whether at least one MSDS has been submitted by circling the appropriate response.

☒ Yes

No

Indicate whether the MSDS was developed by your company or by a different source.

Your company

☒ Another source

- ☐ Mark (X) this box if you attach a continuation sheet.

GENERAL ELECTRIC COMPANY
600 MAIN STREET
JOHNSON CITY NY 13790

NF 00956 01

MATERIAL SAFETY DATA SHEET

DATE: 03/02/90 CUST # 39795-701 P.O.# 34929 PAGE: 1
PRODUCT NUMBER: 188478 PRODUCT NAME: STEPANFOAM BH-614-T

*
* STEPAN COMPANY EMERGENCY INFORMATION *
* NORTHFIELD, IL. 60093 MEDICAL: 1-800-228-5635 *
* (708) 446-7500 CHEMTREC: 1-800-424-9300 *
*

* SECTION I: GENERAL INFORMATION *

PRODUCT NUMBER: 188478 PRODUCT NAME: STEPANFOAM BH-614-T
PRODUCT CLASS: TOLUENE DIISOCYANATE.
PRECAUTIONS: POISON.
REFER TO BILL OF LADING OR CONTAINER LABEL FOR DOT OR OTHER
TRANSPORTATION HAZARD CLASSIFICATION, IF ANY.

* SECTION II: HAZARDOUS INGREDIENTS *

INGREDIENT (CAS #)	OSHA PEL (PPM)	ACGIH TLV (PPM)	OTHER
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(CONTINUED)

S

O.K MAR 08 1990

NF 00956 01

MATERIAL SAFETY DATA SHEET

DATE: 03/02/90 CUST # 39795-701 P.O.# 34929 PAGE: 2
PRODUCT NUMBER: 188478 PRODUCT NAME: STEPANFOAM BH-614-T

TOLUENE-2,4-DIISOCYANATE (TDI) (C) (584-84-9)	0.005	0.005	SARA 313
74%			
TOLUENE-2,6-DIISOCYANATE (TDI) (C) (91-08-7)	0.005	0.005	SARA 313
18%			

NE = NOT ESTABLISHED.
NL = NOT LISTED.
(C) = IDENTIFIED AS A CARCINOGEN BY OSHA, IARC, OR NTP.

* SECTION III: PHYSICAL/CHEMICAL DATA *

BOILING POINT:
OVER 200 DEG F. (93 DEG C.).
% VOLATILE BY WEIGHT:
NIL
EVAPORATION RATE: ESTIMATED SLOWER THAN ETHYL ETHER.

VAPOR DENSITY: ESTIMATED HEAVIER THAN AIR.
WEIGHT PER GALLON:
10.0 LBS.

* SECTION IV: FIRE AND EXPLOSION DATA *

FLASH POINT (SETA FLASH CLOSED CUP):
OVER 200 DEG F. (93 DEG C.).
EXPLOSIVE LIMITS:
LOWER:
1%
EXTINGUISHING MEDIA: DRY CHEMICAL, CARBON DIOXIDE, FOAM, OR
WATER FOG. CLASS BC, ABC FIRE EXTINGUISHER.
SPECIAL FIRE FIGHTING PROCEDURES: SELF-CONTAINED POSITIVE PRESSURE
BREATHING APPARATUS AND PROTECTIVE
CLOTHING SHOULD BE WORN IN FIGHT-
ING FIRES INVOLVING CHEMICALS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE KNOWN.

* SECTION V: REACTIVITY DATA *

STABILITY: STABLE
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

(CONTINUED)

NF 00956 01

MATERIAL SAFETY DATA SHEET

DATE: 03/02/90

CUST # 39795-701

P.O.# 34929

PAGE:

PRODUCT NUMBER: 188478

PRODUCT NAME: STEPANFOAM BH-614-T

INCOMPATABILITY (MATERIALS TO AVOID):

STRONG OXIDIZING AGENTS

WATER, ALCOHOLS, AMINES, ALKALIES, METAL COMPOUNDS (CATALYSTS).

HAZARDOUS DECOMPOSITION PRODUCTS:

CYANIDES AND AMMONIA MAY BE FORMED.

* SECTION VI: HEALTH HAZARD DATA *

EFFECTS OF OVEREXPOSURE/EMERGENCY AND FIRST AID PROCEDURES

EYES: CONTACT WITH EYES IS PAINFUL AND IRRITATING.

FLUSH EYES IMMEDIATELY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

SKIN: PROLONGED OR REPEATED CONTACT WITH SKIN CAUSES IRRITATION.

WASH OFF SKIN WITH WATER. REMOVE CONTAMINATED CLOTHING AND CLEAN BEFORE REUSE.

INHALATION: MAY CAUSE RESPIRATORY SENSITIZATION AND IRRITATE SKIN, EYES AND RESPIRATORY TRACT WITH POSSIBLE PERMANENT DECREASE IN LUNG FUNCTION. MAY AGGRAVATE ASTHMA OR OTHER PRE-EXISTING RESPIRATORY CONDITIONS.

INGESTION: IF SWALLOWED, CONSULT A PHYSICIAN IMMEDIATELY.

CHRONIC EFFECTS AND MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:

CHRONIC EFFECTS AND MEDICAL CONDITIONS AGGRAVATED BY OVER-EXPOSURE TO THIS PRODUCT INCLUDE ASTHMA, OTHER RESPIRATORY DISORDERS (BRONCHITIS, EMPHYSEMA, BRONCHIAL HYPERREACTIVITY), SKIN ALLERGIES, ECZEMA. UNNECESSARY EXPOSURE TO THIS PRODUCT OR ANY CHEMICAL SHOULD BE AVOIDED.

IF ANY SYMPTOMS PERSIST, CONSULT A PHYSICIAN.

IN A NATIONAL TOXICOLOGY PROGRAM (NTP) STUDY, TDI WAS CARCINOGENIC WHEN GIVEN ORALLY TO RATS AND MICE AT MAXIMUM TOLERATED DOSES. TDI WAS NOT CARCINOGENIC TO RATS IN A TWO-YEAR INHALATION STUDY.

SEE SECTION II FOR HAZARDOUS INGREDIENTS PRESENT IN THIS PRODUCT AND THEIR CORRESPONDING THRESHOLD LIMIT VALUES.

FOR ADDITIONAL MEDICAL INFORMATION, CALL 1-800-228-5635

* SECTION VII: SPILL, LEAK, AND DISPOSAL PROCEDURES *

CONTAIN ALL SPILLS AND LEAKS TO PREVENT DISCHARGE INTO THE ENVIRONMENT.

VENTILATE AREA.

(CONTINUED)

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PRODUCT NUMBER: 188478

PRODUCT NAME: STEPANFOAM BH-614-T

SMALL SPILLS: SOAK UP WITH ABSORBANT, SHOVEL INTO WASTE CONTAINER,
FLUSH AREA WITH WATER.

LARGE SPILLS: RECOVER LIQUID FOR REPROCESSING OR DISPOSAL.

WASTE DISPOSAL: RECOVER MATERIAL OR DISPOSE (INCINERATION IS
PREFERRED) IN ACCORDANCE WITH ALL APPLICABLE FEDERAL,
STATE, AND LOCAL REGULATIONS. MATERIAL COLLECTED WITH
ABSORBANT MAY BE DISPOSED IN A PERMITTED LANDFILL IN
ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.
EMPTY CONTAINER MAY RETAIN VAPOR OR PRODUCT RESIDUE.
OBSERVE ALL LABELED SAFEGUARDS UNTIL CONTAINER IS
CLEANED, RECONDITIONED, OR DESTROYED.

* SECTION VIII: PROTECTIVE MEASURES *

EYE PROTECTION: WEAR FULL FACE SHIELD OR GOGGLES WHEN HANDLING.

PROTECTIVE GLOVES: USE IMPERVIOUS GLOVES.

RESPIRATORY PROTECTION:

IF VAPORS ARE PRESENT, USE NIOSH OR MSHA APPROVED RESPIRATOR FOR
ORGANIC VAPORS, AIR-LINE RESPIRATOR, OR A SELF-CONTAINED
BREATHING APPARATUS.

VENTILATION:

USE VENTILATION ADEQUATE TO KEEP HAZARDOUS INGREDIENTS BELOW
THEIR TLV (SEE SECTION II).

OTHER PROTECTIVE EQUIPMENT:

WEAR PROTECTIVE CLOTHING TO PREVENT REPEATED OR PROLONGED
CONTACT.

EYE WASH STATION AND SAFETY SHOWER SHOULD BE NEAR WORK AREA.

* SECTION IX: SPECIAL PRECAUTIONS *

HANDLING AND STORAGE:

AVOID OVERHEATING OR FREEZING.

AVOID OPEN FIRE OR FLAME.

OTHER PRECAUTIONS:

SPILLED MATERIAL IS SLIPPERY. WASH THOROUGHLY AFTER HANDLING. IF
INGESTED, CALL A PHYSICIAN.

DO NOT POUR INTO DRAINS, AS SOLIDS THAT FORM WILL PLUG SEWERS.

1% AMMONIA MAY BE USED TO NEUTRALIZE SPILLS.

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NF 00956 01

MATERIAL SAFETY DATA SHEET

DATE: 03/02/90

CUST # 39795-701

P.O.# 34929

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PRODUCT NUMBER: 188478

PRODUCT NAME: STEPANFOAM BH-614-T

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(R) REGISTERED TRADEMARK OR APPLICATION PENDING.

***** LAST REVISION DATE: 01/08/90 14:19:38 *****

SAFETY DATA

MSDS-330005

TDI U223

EMERSON AND CUMING, INC.

A GRACE CO.

77 DRAGON COURT,

WOBURN, MA 01888

EMERGENCY/SAFETY INFORMATION: (617)935-4850

OR: (617)938-8630

ADDITIONAL MSDS: (617)823-3300

MSDS PREPARED BY: DAVID MAAS

DATE PREPARED: 01/30/89

SUPERCEDES: 09/11/84

DOCUMENT #: 330005

SECTION I - IDENTIFICATION

PRODUCT (TRADE) NAME: ECCOFOAM FPH

GENERAL CHEMICAL DESCRIPTION: ISOCYANATE PREPOLYMER

SECTION II - INGREDIENTS

COMPONENTS	PERCENT BY WEIGHT	MAXIMUM EXPOSURE LIMITS (8 HOUR TIME-WEIGHTED AVERAGE)	
		OSHA PEL	ACGIH TLV
TOLUENE-DIISOCYANATE-BASED PREPOLYMER	65-75%	NOT ESTABLISHED	
TOLUENE DIISOCYANATE(A) (CAS#: 584-84-9)	25-35%	0.02PPM	0.005PPM

SEE "HEALTH HAZARD DATA".

(A) THIS MATERIAL IS REGULATED BY THE SARA SECTION 313 AMENDMENTS TO RCRA.

SECTION III - PHYSICAL DATA

BOILING POINT (°F): > 200

VAPOR PRESSURE AT 25°C: < 1 MM HG

VOLATILES (% BY WEIGHT): NEGLIGIBLE

APPEARANCE AND COLOR: RED LIQUID

SPECIFIC GRAVITY (WATER=1): 1.30

SOLUBILITY IN WATER: REACTS WITH WATER

VAPOR DENSITY: HEAVIER THAN AIR

PRINTED: 05/30/89

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SAFETY DATA

ECCOFOAM FPM

SECTION IV-FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (°F): > 270° (PENSKY-MARTENS CLOSED CUP: ASTM D93)

FLAMMABLE LIMITS: NOT ESTABLISHED

EXTINGUISHING MEDIA: CARBON DIOXIDE, DRY CHEMICAL, FOAM.

UNUSUAL FIRE OR EXPLOSION HAZARDS: TOXIC VAPORS MAY BE EVOLVED UPON EXPOSURE TO HEAT OR OPEN FLAME.

SPECIAL FIREFIGHTING PROCEDURES: FIREFIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS.

SECTION V-REACTIVITY DATA

PRODUCT STABILITY: PRODUCT IS STABLE; HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

INCOMPATIBILITIES: STRONG OXIDIZERS, WATER, ALCOHOLS, POWDERED METALS OR METAL OXIDES.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, OXIDES OF NITROGEN, TRACES OF CYANIDES.

CONDITIONS TO AVOID: STORAGE IN OPEN CONTAINERS, EXPOSURE TO HEAT AND/OR OPEN FLAME, UNCONTROLLED MIXING WITH (OR EXPOSURE TO) INCOMPATIBLE SUBSTANCES (ABOVE).

ECCOFOAM FPH

SECTION VI-SPILL OR LEAK PROCEDURES

NOTE: PROTECTIVE GLOVES, CLOTHING, RESPIRATORY PROTECTION AND CHEMICAL SPLASH GOGGLES MUST BE WORN DURING ENTIRE CLEAN-UP PROCEDURE.

FOR SMALL SPILLS: TURN ON VENTILATION EQUIPMENT TO EVACUATE VAPORS FROM THE AREA. WIPE UP, OR ABSORB WITH VERMICULITE OR OTHER ABSORBENT MATERIAL.

COLLECT WASTE IN SEALED CONTAINERS.

SCRUB AREA WITH SOAPY WATER AND RINSE. PREVENT RINSES FROM ENTERING DRAINS OR OTHER WATERWAYS.

SPILLED MATERIAL AND WATER RINSES SHOULD BE DISPOSED OF AS CHEMICAL WASTE IN ACCORDANCE WITH ALL CURRENT FEDERAL, STATE, AND LOCAL REGULATIONS.

FOR LARGE SPILLS: TURN ON VENTILATION EQUIPMENT TO EVACUATE VAPORS FROM THE AREA. NON-ESSENTIAL PERSONNEL SHOULD BE EVACUATED FROM IMMEDIATE AREA.

DIKE AREA TO CONTAIN SPILLED MATERIAL AND TO PREVENT RUNOFF INTO DRAINS, SEWERS, AND OTHER WATERWAYS.

SHOVEL OR PUMP TO DRUM OR SALVAGE TANK.

ABSORB RESIDUAL MATERIAL WITH SAND, VERMICULITE, OR OTHER ABSORBENT MATERIAL.

SCRAPE OR SHOVEL ABSORBED WASTE AND ABSORBENT INTO CONTAINERS.

THOROUGHLY SCRUB RESIDUAL MATERIAL OF AQUEOUS 1% AMMONIA AND 5% ISOPROPANOL.

COLLECT WATER RINSES IN D.O.T.-APPROVED CONTAINERS, SEPARATE FROM MATERIAL ABSORBED WITH VERMICULITE.

POLYMERIZED MATERIAL MAY BE SCRAPED UP AND DISPOSED OF SEPARATELY.

SPILLED MATERIAL AND WATER RINSES SHOULD BE DISPOSED OF AS CHEMICAL WASTE IN ACCORDANCE WITH ALL CURRENT FEDERAL, STATE, AND LOCAL REGULATIONS.

SECTION VII-SPECIAL PRECAUTIONS

PERSONAL PROTECTION: AVOID SKIN AND EYE CONTACT. WEAR GLOVES AND PROTECTIVE CLOTHING TO PREVENT EXPOSURE. AVOID BREATHING VAPORS. USE ONLY WITH ADEQUATE VENTILATION.

STORAGE: STORE IN COOL, DRY PLACE; KEEP REMOVED FROM ANY HEAT OR OPEN FLAME.

DO NOT EXPOSE TO MOISTURE; MOISTURE WILL MAKE PRODUCT UNUSABLE.

KEEP CONTAINER CLOSED WHEN NOT IN USE.

VENTILATION REQUIREMENTS: FLEXIBLE DUCTWORK SHOULD EXTEND TO AREAS OF HIGH CONCENTRATION TO PREVENT LOCAL BUILDUP OF VAPOR. NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS SHOULD BE USED IN THE ABSENCE OF MECHANICAL VENTILATION WHEN WORKING WITH LARGE QUANTITIES OF MATERIAL.

FLAMMABILITY/EXPLOSION PRECAUTIONS: KEEP AWAY FROM INTENSE HEAT, OPEN FLAMES.

SAFETY DATA

ECCOFOAM FPH

SECTION VIII-HEALTH HAZARD DATA

CAUTION: CONTAINS TOLUENE DIISOCYANATE

EFFECTS OF ACUTE OVEREXPOSURE

INHALATION

VAPORS MAY PRODUCE IRRITATION
AND NAUSEA. PROLONGED
BREATHING MAY CAUSE ASTHMA.

A PULMONARY SENSITIZER

EYE CONTACT

SEVERE IRRITATION UPON DIRECT
CONTACT.

SKIN CONTACT

IRRITATION UPON DIRECT
CONTACT.
PROLONGED EXPOSURE MAY RESULT
IN SKIN SENSITIZATION

INGESTION

HARMFUL IF SWALLOWED

EMERGENCY FIRST AID PROCEDURES

REMOVE TO FRESH AIR. GIVE
ARTIFICIAL RESPIRATION IF NOT
BREATHING. GIVE OXYGEN IF
BREATHING DIFFICULT. GET
IMMEDIATE MEDICAL ATTENTION.

IMMEDIATELY FLUSH EYES WITH WATER
FOR 15 MINUTES; GET MEDICAL
ATTENTION

REMOVE CONTAMINATED CLOTHING
WASH AFFECTED AREA WITH WATER.

DILUTE WITH LARGE QUANTITIES
WATER; INDUCE VOMITING
ONLY IF VICTIM IS CONSCIOUS
AND ALERT. GET IMMEDIATE MEDICAL
ATTENTION.

EFFECTS OF CHRONIC OVEREXPOSURE: OVEREXPOSURE TO TOLUENE DIISOCYANATE HAS RESULTED IN
DECREASED PULMONARY FUNCTION AND FIBROSIS IN WORKERS. TDI IS INCLUDED ON THE NTP LIST OF
SUBSTANCES THAT ARE REASONABLY ANTICIPATED TO BE CARCINOGENIC.

GET MEDICAL ATTENTION IF SYMPTOMS PERSIST

4.03 Submit a copy or reasonable facsimile of any hazard information (other than an MSDS that is provided to your customers/users regarding the listed substance or any formulation containing the listed substance. Indicate whether this information has been submitted by circling the appropriate response.

Yes

☒ No **NA**

4.04 For each activity that uses the listed substance, circle all the applicable numbers corresponding to each physical state of the listed substance during the activity listed. Physical states for importing and processing activities are determined at the time you import or begin to process the listed substance. Physical states for manufacturing, storage, disposal and transport activities are determined using the final state of the product.

CBI

☐

Activity	Physical State				
	Solid	Slurry	Liquid	Liquified Gas	Gas
Manufacture	1	2	3	4	
Import	1	2	3	4	
Process	<input checked="" type="radio"/> 1	<input checked="" type="radio"/> 2	<input checked="" type="radio"/> 3	4	
Store	1	<input checked="" type="radio"/> 2	<input checked="" type="radio"/> 3	4	
Dispose	<input checked="" type="radio"/> 1	<input checked="" type="radio"/> 2	<input checked="" type="radio"/> 3	4	
Transport	<input checked="" type="radio"/> 1	<input checked="" type="radio"/> 2	<input checked="" type="radio"/> 3	4	

☐ Mark (X) this box if you attach a continuation sheet.

- 4.05 Particle Size -- If the listed substance exists in particulate form during any of the following activities, indicate for each applicable physical state the size and the percentage distribution of the listed substance by activity. Do not include particles ≥ 10 microns in diameter. Measure the physical state and particle sizes for importing and processing activities at the time you import or begin to process the listed substance. Measure the physical state and particle sizes for manufacturing storage, disposal and transport activities using the final state of the product.

CBI

☐

Physical State

NA

		<u>Manufacture</u>	<u>Import</u>	<u>Process</u>	<u>Store</u>	<u>Dispose</u>	<u>Transport</u>
Dust	<1 micron						
	1 to <5 microns						
	5 to <10 microns						
Powder	<1 micron						
	1 to <5 microns						
	5 to <10 microns						
Fiber	<1 micron						
	1 to <5 microns						
	5 to <10 microns						
Aerosol	<1 micron						
	1 to <5 microns						
	5 to <10 microns						

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 5 ENVIRONMENTAL FATE

PART A RATE CONSTANTS AND TRANSFORMATION PRODUCTS

5.01 Indicate the rate constants for the following transformation processes.

a. Photolysis:

Absorption spectrum coefficient (peak) ("U.K.") (1/M cm) at _____ nm
 Reaction quantum yield, ϕ ("U.K.") at _____ nm
 Direct photolysis rate constant, k_p , at ... ("U.K.") 1/hr _____ latitude

b. Oxidation constants at 25°C:

For 1O_2 (singlet oxygen), k_{ox} ("U.K.") 1/M
 For RO_2 (peroxy radical), k_{ox} ("U.K.") 1/M

c. Five-day biochemical oxygen demand, BOD_5 ... ("U.K.") mg/

d. Biotransformation rate constant:

For bacterial transformation in water, k_b ... ("U.K.") 1/h
 Specify culture ("U.K.")

e. Hydrolysis rate constants:

For base-promoted process, k_b ("U.K.") 1/M
 For acid-promoted process, k_a ("U.K.") 1/M
 For neutral process, k_n ("U.K.") 1/h

f. Chemical reduction rate (specify conditions) ("U.K.")

g. Other (such as spontaneous degradation) ... ("U.K.")

☐ Mark (X) this box if you attach a continuation sheet.

PART B PARTITION COEFFICIENTS

5.02 a. Specify the half-life of the listed substance in the following media.

Media	Half-life (specify units)
Groundwater	("U.K.") ↓
Atmosphere	
Surface water	
Soil	

b. Identify the listed substance's known transformation products that have a half-life greater than 24 hours.

CAS No.	Name	Half-life (specify units)	Media
("U.K.") ↓			in
			in
			in
			in

5.03 Specify the octanol-water partition coefficient, K_{ow} ... ("U.K.") at 25°C
Method of calculation or determination

5.04 Specify the soil-water partition coefficient, K_d ("U.K.") at 25°C
Soil type

5.05 Specify the organic carbon-water partition coefficient, K_{oc} ("U.K.") at 25°C

5.06 Specify the Henry's Law Constant, H ("U.K.") atm-m³/mol

☐ Mark (X) this box if you attach a continuation sheet.

5.07 List the bioconcentration factor (BCF) of the listed substance, the species for which it was determined, and the type of test used in deriving the BCF.

Bioconcentration Factor

Species

Test¹

("U.K.")

¹Use the following codes to designate the type of test:

F = Flowthrough

S = Static

☐ Mark (X) this box if you attach a continuation sheet.

6.04 For each market listed below, state the quantity sold and the total sales value of the listed substance sold or transferred in bulk during the reporting year.

☐

<u>Market</u>	<u>Quantity Sold or Transferred (kg/yr)</u>	<u>Total Sales Value (\$/yr)</u>
Retail sales		
Distribution -- Wholesalers		
Distribution -- Retailers		
Intra-company transfer		
Repackagers		
Mixture producers		
Article producers		
Other chemical manufacturers or processors		
Exporters		
Other (specify)		

6.05 Substitutes -- List all known commercially feasible substitutes that you know exist for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible to use in your current operation, and which results in a final product with comparable performance in its end uses.

CBI

☐

<u>Substitute</u>	<u>Cost (\$/kg)</u>
None Known	

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 7 MANUFACTURING AND PROCESSING INFORMATION

General Instructions:

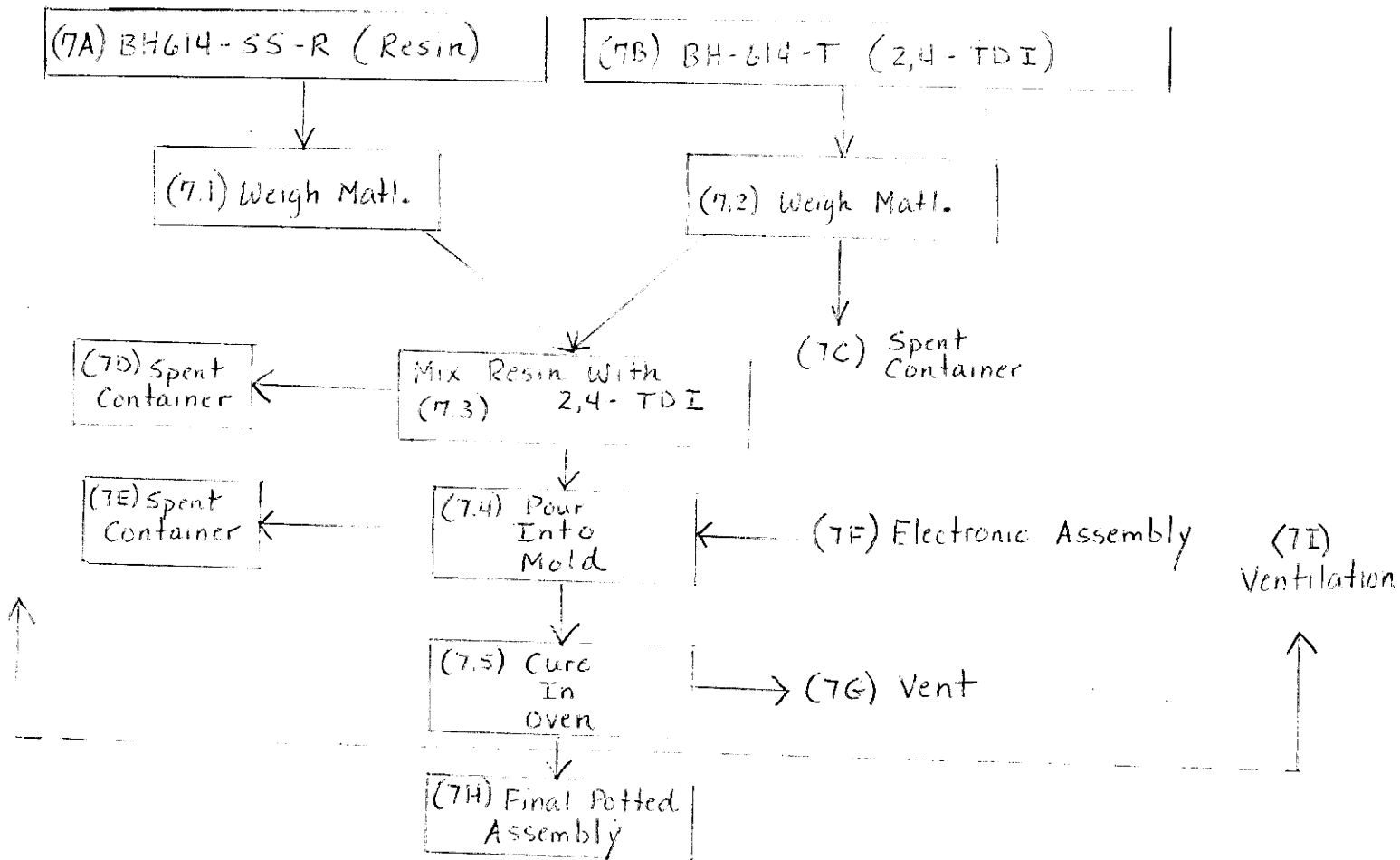
For questions 7.04-7.06, provide a separate response for each process block flow diagram provided in questions 7.01, 7.02, and 7.03. Identify the process type from which the information is extracted.

PART A MANUFACTURING AND PROCESSING PROCESS TYPE DESCRIPTION

7.01 In accordance with the instructions, provide a process block flow diagram showing the major (greatest volume) process type involving the listed substance.

CBI

☐ Process type Encapsulating / Potting



☐ Mark (X) this box if you attach a continuation sheet.

7.03 In accordance with the instructions, provide a process block flow diagram showing a process emission streams and emission points that contain the listed substance and which, if combined, would total at least 90 percent of all facility emissions if not treated before emission into the environment. If all such emissions are released from one process type, provide a process block flow diagram using the instructions for question 7.01. If all such emissions are released from more than one process type, provide a process block flow diagram showing each process type as a separate block.

CBI

☐ Process type Encapsulating / Potting

(See Page
42)

☐ (7B), (7.2) —————> (7C) Spent Container

☐ (7B), (7.2), (7.3),
(7.4), (7.5) —————> (7I) Area Ventilation

☐ (7.5) —————> (7G) Over Vent

☐ (7.3) —————> (7D) Spent Container

☐ (7.4) —————> (7E) Spent Container

☐ Mark (X) this box if you attach a continuation sheet.

- 7.04 Describe the typical equipment types for each unit operation identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type Encapsulating / Potting

Unit Operation ID Number	Typical Equipment Type	Operating Temperature Range (°C)	Operating Pressure Range (mm Hg)	Vessel Compositi
<u>7.1</u>	<u>Paper Cup</u>	<u>Room</u>	<u>Room</u>	<u>Paper</u>
<u>7.2</u>	<u>Paper Cup</u>	<u>Room</u>	<u>Room</u>	<u>Paper</u>
<u>7.3</u>	<u>Paper Cup</u>	<u>Room</u>	<u>Room</u>	<u>Paper</u>
<u>7.4</u>	<u>Mold</u>	<u>Room</u>	<u>Room</u>	<u>RTV, Al</u>
<u>7.5</u>	<u>Oven</u>	<u>110 ± 5°</u>	<u>Room</u>	<u>Steel</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

- 7.05 Describe each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type Encapsulating / Potting

Process Stream ID Code	Process Stream Description	Physical State ¹	Stream Flow (kg/yr)
(7A)	BH-614-SS-R Resin	(OL) Viscous Lig.	≈ 32
(7B)	BH614-T (2,4-TDI)	(OL) Liquid	≈ 22.7
(7C)	Spent Paper Cup	(OL) Residual Liquid	≈ .227
(7D)	Spent Paper Cup	(OL) Liquid	("U.K.")
(7E)	Spent Container	(SO) Solid	NA
(7F)	Electronic Assembly	(SO) Solid	NA
(7G)	Oven Vent	(GU) Vapor	("U.K.")
(7H)	Final Assembly	(SO) Solid	(NA)
(7I)	Room Vent	(GU) Vapor	("U.K.")

¹Use the following codes to designate the physical state for each process stream:

GC = Gas (condensable at ambient temperature and pressure)
 GU = Gas (uncondensable at ambient temperature and pressure)
 SO = Solid
 SY = Sludge or slurry
 AL = Aqueous liquid
 OL = Organic liquid
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

☐ Mark (X) this box if you attach a continuation sheet.

7.06 Characterize each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the CBI instructions for further explanation and an example.)

☐ Process type Encapsulating / Potting

a.	b.	c.	d.	e.
Process Stream ID Code	Known Compounds ¹	Concentrations ^{2,3} (% or ppm)	Other Expected Compounds	Estimated Concentrations (% or ppm)
<u>7A</u>	<u>BH614-SS-R</u>	<u>100%</u>	<u>None</u>	<u>NA</u>
<u>7B</u>	<u>BH614-T</u>	<u>100%</u>	<u>2,4-TDI</u>	<u>74%</u>
			<u>2,6-TDI</u>	<u>18%</u>
<u>7C</u>	<u>BH-614-T</u>	<u>100%</u>	<u>2,4-TDI</u>	<u>74%</u>
			<u>2,6-TDI</u>	<u>18%</u>
<u>7D</u>	<u>Mixed Resin</u>	<u>100%</u>	<u>None</u>	<u>NA</u>
<u>7E</u>	<u>Solidified Resin</u>	<u>100%</u>	<u>Ammonia</u>	<u>("U.K.")</u>
<u>7F</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>7G</u>	<u>Isocyanates</u>	<u>("U.K.")</u>	<u>NA</u>	<u>NA</u>
	<u>Ammonia</u>	<u>("U.K.")</u>	<u>NA</u>	<u>NA</u>
<u>7H</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>7I</u>	<u>Isocyanates</u>	<u>("U.K.")</u>	<u>NA</u>	<u>NA</u>

7.06 continued below

☐ Mark (X) this box if you attach a continuation sheet.

¹For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column b. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive Package Number	Components of Additive Package	Concentrations (% or ppm)
1		
2		
3		
4		
5		

²Use the following codes to designate how the concentration was determined:

A = Analytical result
E = Engineering judgement/calculation

³Use the following codes to designate how the concentration was measured:

V = Volume
W = Weight

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 8 RESIDUAL TREATMENT GENERATION, CHARACTERIZATION, TRANSPORTATION, AND
MANAGEMENT

General Instructions:

For questions 8.04-8.06, provide a separate response for each residual treatment block flow diagram provided in question 8.01, 8.02 or 8.03. Identify the process type from which the information is extracted.

For questions 8.05-8.33, the Stream Identification Codes are those process streams listed in either the Section 7 or Section 8 block flow diagrams which contain residuals for each applicable waste management method.

For questions 8.07-8.33, if residuals are combined before they are handled, list those Stream Identification Codes on the same line.

Questions 8.09-8.33 refer to the waste management activities involving the residuals identified in either the Section 7 or Section 8 block flow diagrams. Not all Stream Identification Codes used in the sample answers (e.g., for the incinerator questions) have corresponding process streams identified in the block flow diagram(s). These Stream Identification codes are for illustrative purposes only.

For questions 8.11-8.33, if you have provided the information requested on one of the EPA Office of Solid Waste surveys listed below within the three years prior to your reporting year, you may submit a copy or reasonable facsimile in lieu of answering those questions which the survey addresses. The applicable surveys are: (1) Hazardous Waste Treatment, Storage, Disposal, and Recycling Survey; (2) Hazardous Waste Generator Survey; or (3) Subtitle D Industrial Facility Mail Survey.

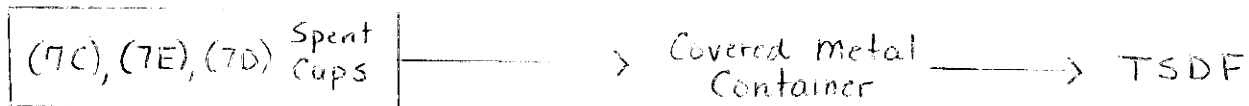
☐ Mark (X) this box if you attach a continuation sheet.

PART A RESIDUAL TREATMENT PROCESS DESCRIPTION

8.01 In accordance with the instructions, provide a residual treatment block flow diagram which describes the treatment process used for residuals identified in question 7.01

CE:

☐ Process type Encapsulating / Potting



☐ Mark (X) this box if you attach a continuation sheet.

PART B RESIDUAL GENERATION AND CHARACTERIZATION

8.05 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

☐ Process type Encapsulating / Potting

a.	b.	c.	d.	e.	f.	g.
Stream ID Code	Type of Hazardous Waste ¹	Physical State of Residual ²	Known Compounds ³	Concentrations (% or ppm) ^{4,5,6}	Other Expected Compounds	Estimated Concentrations (% or ppm)
<u>7C</u>	<u>T</u>	<u>OL</u>	<u>2,4-TDI</u>	<u>74%</u>	<u>("U.K.")</u>	<u>("U.K.")</u>
			<u>2,6-TDI</u>	<u>18%</u>	<u>("U.K.")</u>	<u>("U.K.")</u>
<u>7D</u>	<u>T</u>	<u>OL</u>	<u>2,4-TDI</u>	<u>74%</u>	<u>("U.K.")</u>	<u>("U.K.")</u>
			<u>2,6-TDI</u>	<u>18%</u>	<u>("U.K.")</u>	<u>("U.K.")</u>
<u>7E</u>	<u>NA</u>	<u>SO</u>	<u>("U.K.")</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>

8.05 continued below

☐ Mark (X) this box if you attach a continuation sheet.

8.05 (continued)

Use the following codes to designate the type of hazardous waste:

I = Ignitable
C = Corrosive
R = Reactive
E = EP toxic
T = Toxic
H = Acutely hazardous

Use the following codes to designate the physical state of the residual:

GC = Gas (condensable at ambient temperature and pressure)
GU = Gas (uncondensable at ambient temperature and pressure)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

8.05 continued below

☐ Mark (X) this box if you attach a continuation sheet.

8.05 (continued)

³For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column d. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

<u>Additive Package Number</u>	<u>Components of Additive Package</u>	<u>Concentrations (% or ppm)</u>
<u>1</u>		
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		

⁴Use the following codes to designate how the concentration was determined:

- A = Analytical result
- E = Engineering judgement/calculation

8.05 continued below

☐ Mark (X) this box if you attach a continuation sheet.

⁵Use the following codes to designate how the concentration was measured:

V = Volume

W = Weight

⁶Specify the analytical test methods used and their detection limits in the table below. Assign a code to each test method used and list those codes in column e.

NA

<u>Code</u>	<u>Method</u>	<u>Detection Li-</u> <u>(\pm ug/l)</u>
<u>1</u>		
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		
<u>6</u>		

☐ Mark (X) this box if you attach a continuation sheet.

8.06 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

CBI

☐ Process type Encapsulating/Potting

a.	b.	c.	d.	e.	f.	g.
Stream ID Code	Waste Description Code ¹	Management Method Code ²	Residual Quantities (kg/yr)	Management of Residual (%) On-Site Off-Site	Costs for Off-Site Management (per kg)	Changes Management Methods
<u>7C</u>	<u>B67/B69</u>	<u>1ST</u>	<u>.227</u>	<u>100%</u>	<u>("U.K.")</u>	<u>NA</u>
<u>7D</u>	<u>B67/B69</u>	<u>1ST</u>	<u>("U.K.")</u>	<u>100%</u>	<u>("U.K.")</u>	<u>NA</u>
<u>7E</u>	<u>B82</u>	<u>1ST</u>	<u>("U.K.")</u>	<u>100%</u>	<u>("U.K.")</u>	

¹Use the codes provided in Exhibit 8-1 to designate the waste descriptions

²Use the codes provided in Exhibit 8-2 to designate the management methods

☐ Mark (X) this box if you attach a continuation sheet.

WASTE DESCRIPTION CODES

These waste description codes were developed specifically for this survey to supplement the descriptions listed with the RCRA and other waste codes. (These waste description codes are not regulatory definitions.)

WASTE DESCRIPTION CODES FOR HAZARDOUS WASTE DESCRIBED BY A SINGLE RCRA P, K, P, OR U WASTE CODE

A01 Spent solvent (F001-F005, K086)	A06 Contaminated soil or cleanup residue	A10 Incinerator ash
A02 Other organic liquid (F001-F005, K086)	A07 Other F or K waste exactly as described	A11 Solidified treatment residue
A03 Still bottom (F001-F005, K086)	A08 Concentrated off-spec or discarded product	A12 Other treatment residue (specify in Facility Notes)
A04 Other organic sludge (F001-F005, K086)	A09 Empty containers	A13 Other untreated waste (specify in Facility Notes)
A05 Wastewater or aqueous mixture		

* Exactly as described means that the waste matches the description of the RCRA waste code

INORGANIC LIQUIDS—Waste that is primarily inorganic and highly fluid (e.g. aqueous) with low suspended inorganic solids and low organic content

- 801 Aqueous waste with low solvents
- 802 Aqueous waste with low other toxic organics
- 803 Spent acid with metals
- 804 Spent acid without metals
- 805 Acidic aqueous waste
- 806 Caustic solution with metals but no cyanides
- 807 Caustic solution with metals and cyanides
- 808 Caustic solution with cyanides but no metals
- 809 Spent caustic
- 810 Caustic aqueous waste
- 811 Aqueous waste with reactive sulfides
- 812 Aqueous waste with other reactives (e.g., explosives)
- 813 Other aqueous waste with high dissolved solids
- 814 Other aqueous waste with low dissolved solids
- 815 Scrubber water
- 816 Leachate
- 817 Waste liquid mercury
- 818 Other inorganic liquid (specify in Facility Notes)

INORGANIC SLUDGES—Waste that is primarily inorganic, with moderate-to-high water content and low organic content; pumpable.

- 819 Lime sludge without metals
- 820 Lime sludge with metals/metal hydroxide sludge
- 821 Wastewater treatment sludge with toxic organics
- 822 Other wastewater treatment sludge
- 823 Untreated plating sludge without cyanides
- 824 Untreated plating sludge with cyanides
- 825 Other sludge with cyanides
- 826 Sludge with reactive sulfides
- 827 Sludge with other reactives
- 828 Degreasing sludge with metal scale or filings
- 829 Air pollution control device sludge (e.g., fly ash, wet scrubber sludge)
- 830 Sediment or lagoon dragout contaminated with organics
- 831 Sediment or lagoon dragout contaminated with inorganics only

- 832 Drilling mud
- 833 Asbestos slurry or sludge
- 834 Chloride or other brine sludge
- 835 Other inorganic sludge (specify in Facility Notes)

INORGANIC SOLIDS—Waste that is primarily inorganic and solid, with low organic content and low-to-moderate water content; not pumpable

- 836 Soil contaminated with organics
- 837 Soil contaminated with inorganics only
- 838 Ash, slag, or other residue from incineration of wastes
- 839 Other "dry" ash, slag, or thermal residue
- 840 "Dry" lime or metal hydroxide solids chemically "fixed"
- 841 "Dry" lime or metal hydroxide solids not "fixed"
- 842 Metal scale, filings, or scrap
- 843 Empty or crushed metal drums or containers
- 844 Batteries or battery parts, casings, cores
- 845 Spent solid filters or adsorbents
- 846 Asbestos solids and debris
- 847 Metal-cyanide salts/chemicals
- 848 Reactive cyanide salts/chemicals
- 849 Reactive sulfide salts/chemicals
- 850 Other reactive salts/chemicals
- 851 Other metal salts/chemicals
- 852 Other waste inorganic chemicals
- 853 Lab packs of old chemicals only
- 854 Lab packs of debris only
- 855 Mixed lab packs
- 856 Other inorganic solids (specify in Facility Notes)

INORGANIC GASES—Waste that is primarily inorganic with a low organic content and is a gas at atmospheric pressure.

- 857 Inorganic gases

ORGANIC LIQUIDS—Waste that is primarily organic and is highly fluid, with low inorganic solids content and low-to-moderate water content.

- 858 Concentrated solvent-water solution
- 859 Halogenated (e.g., chlorinated) solvent
- 860 Nonhalogenated solvent

- 861 Halogenated/nonhalogenated solvent mixture
- 862 Oil-water emulsion or mixture
- 863 Waste oil
- 864 Concentrated aqueous solution of other organics
- 865 Concentrated phenolics
- 866 Organic paint, ink, lacquer, or varnish
- 867 Adhesives or epoxies
- 868 Paint thinner or petroleum distillates
- 869 Reactive or polymerizable organic liquid
- 870 Other organic liquid (specify in Facility Notes)

ORGANIC SLUDGES—Waste that is primarily organic, with low-to-moderate inorganic solids content and water content; pumpable

- 871 Still bottoms of halogenated (e.g., chlorinated) solvents or other organic liquids
- 872 Still bottoms of nonhalogenated solvents or other organic liquids
- 873 Oily sludge
- 874 Organic paint or ink sludge
- 875 Reactive or polymerizable organics
- 876 Resins, tars, or tarry sludge
- 877 Biological treatment sludge
- 878 Sewage or other untreated biological sludge
- 879 Other organic sludge (specify in Facility Notes)

ORGANIC SOLIDS—Waste that is primarily organic and solid, with low-to-moderate inorganic content and water content; not pumpable.

- 880 Halogenated pesticide solid
- 881 Nonhalogenated pesticide solid
- 882 Solid resins or polymerized organics
- 883 Spent carbon
- 884 Reactive organic solid
- 885 Empty fiber or plastic containers
- 886 Lab packs of old chemicals only
- 887 Lab packs of debris only
- 888 Mixed lab packs
- 889 Other halogenated organic solid
- 890 Other nonhalogenated organic solid

ORGANIC GASES—Waste that is primarily organic with low-to-moderate inorganic content and is a gas at atmospheric pressure.

- 891 Organic gases

EXHIBIT 8-2.
(Refers to question 8.06(c))

MANAGEMENT METHODS

- M1 = Discharge to publicly owned
wastewater treatment works
M2 = Discharge to surface water under
NPDES
M3 = Discharge to off-site, privately
owned wastewater treatment works
M4 = Scrubber: a) caustic; b) water;
c) other
M5 = Vent to: a) atmosphere; b) flare;
c) other (specify) _____
M6 = Other (specify) _____

TREATMENT AND RECYCLING

Incineration/thermal treatment

- 1I Liquid injection
2I Rotary or rocking kiln
3I Rotary kiln with a liquid injection
unit
4I Two stage
5I Fixed hearth
6I Multiple hearth
7I Fluidized bed
8I Infrared
9I Fume/vapor
10I Pyrolytic destructor
11I Other incineration/thermal
treatment

Reuse as fuel

- 1RF Cement kiln
2RF Aggregate kiln
3RF Asphalt kiln
4RF Other kiln
5RF Blast furnace
6RF Sulfur recovery furnace
7RF Smelting, melting, or refining
furnace
8RF Coke oven
9RF Other industrial furnace
10RF Industrial boiler
11RF Utility boiler
12RF Process heater
13RF Other reuse as fuel unit

Fuel Blending

- 1FB Fuel blending

Solidification

- 1S Cement or cement/silicate processes
2S Pozzolanic processes
3S Asphaltic processes
4S Thermoplastic techniques
5S Organic polymer techniques
6S Jacketing (macro-encapsulation)
7S Other solidification

Recovery of solvents and liquid organics
for reuse

- 1SR Fractionation
2SR Batch still distillation
3SR Solvent extraction
4SR Thin-film evaporation
5SR Filtration
6SR Phase separation
7SR Dessication
8SR Other solvent recovery

Recovery of metals

- 1MR Activated carbon (for metals
recovery)
2MR Electrodialysis (for metals
recovery)
3MR Electrolytic metal recovery
4MR Ion exchange (for metals recovery)
5MR Reverse osmosis (for metals
recovery)
6MR Solvent extraction (for metals
recovery)
7MR Ultrafiltration (for metals
recovery)
8MR Other metals recovery

Wastewater Treatment

After each wastewater treatment type
listed below (1WT - 66WT) specify
a) tank; or b) surface impoundment
(i.e., 63Wta)

Equalization

- 1WT Equalization

Cyanide oxidation

- 2WT Alkaline chlorination
3WT Ozone
4WT Electrochemical
5WT Other cyanide oxidation

General oxidation (including
disinfection)

- 6WT Chlorination
7WT Ozonation
8WT UV radiation
9WT Other general oxidation

Chemical precipitation¹

- 10WT Lime
11WT Sodium hydroxide
12WT Soda ash
13WT Sulfide
14WT Other chemical precipitation

Chromium reduction

- 15WT Sodium bisulfite
16WT Sulfur dioxide

MANAGEMENT METHODS

17WT Ferrous sulfate	48WT Coalescing plate separation
18WT Other chromium reduction	49WT Other oil skimming
Complexed metals treatment (other than chemical precipitation by pH adjustment)	Other liquid phase separation
19WT Complexed metals treatment:	50WT Decanting
	51WT Other liquid phase separation
Emulsion breaking	Biological treatment
20WT Thermal	52WT Activated sludge
21WT Chemical	53WT Fixed film-trickling filter
22WT Other emulsion breaking	54WT Fixed film-rotating contactor
Adsorption	55WT Lagoon or basin, aerated
23WT Carbon adsorption	56WT Lagoon, facultative
24WT Ion exchange	57WT Anaerobic
25WT Resin adsorption	58WT Other biological treatment
26WT Other adsorption	Other wastewater treatment
Stripping	59WT Wet air oxidation
27WT Air stripping	60WT Neutralization
28WT Steam stripping	61WT Nitrification
29WT Other stripping	62WT Denitrification
Evaporation	63WT Flocculation and/or coagulation
30WT Thermal	64WT Settling (clarification)
31WT Solar	65WT Reverse osmosis
32WT Vapor recompression	66WT Other wastewater treatment
33WT Other evaporation	OTHER WASTE TREATMENT
Filtration	1TR Other treatment
34WT Diatomaceous earth	2TR Other recovery for reuse
35WT Sand	ACCUMULATION
36WT Multimedia	1A Containers
37WT Other filtration	2A Tanks
Sludge dewatering	STORAGE
38WT Gravity thickening	1ST Container (i.e., barrel, drum)
39WT Vacuum filtration	2ST Tank
40WT Pressure filtration (belt, plate and frame, or leaf)	3ST Waste pile
41WT Centrifuge	4ST Surface impoundment
42WT Other sludge dewatering	5ST Other storage
Air flotation	DISPOSAL
43WT Dissolved air flotation	1D Landfill
44WT Partial aeration	2D Land treatment
45WT Air dispersion	3D Surface impoundment (to be closed as a landfill)
46WT Other air flotation	4D Underground injection well
Oil skimming	
47WT Gravity separation	

¹Chemical precipitation is a treatment operation whereby the pH of a waste is adjusted to the range necessary for removal (precipitation) of contaminants. However, if the pH is adjusted solely to achieve a neutral pH, THE OPERATION SHOULD BE CONSIDERED NEUTRALIZATION (60WT).

- 8.22 Describe the combustion chamber design parameters for each of the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Incinerator	Combustion Chamber Temperature (°C)		Location of Temperature Monitor		Residence Time In Combustion Chamber (seconds)	
	Primary	Secondary	Primary	Secondary	Primary	Secondary
1						
2						
3						

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes

No

- 8.23 Complete the following table for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Incinerator	Air Pollution Control Device ¹	Types of Emissions Data Available
1		
2		
3		

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes

No

¹Use the following codes to designate the air pollution control device:

S = Scrubber (include type of scrubber in parenthesis)
 E = Electrostatic precipitator
 O = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 9 WORKER EXPOSURE

General Instructions:

Questions 9.03-9.25 apply only to those processes and workers involved in manufacturing or processing the listed substance. Do not include workers involved in residual waste treatment unless they are involved in this treatment process on a regular basis (i.e., exclude maintenance workers, construction workers, etc.).

☐ Mark (X) this box if you attach a continuation sheet.

PART A EMPLOYMENT AND POTENTIAL EXPOSURE PROFILE

9.01 Mark (X) the appropriate column to indicate whether your company maintains records of the following data elements for hourly and salaried workers. Specify for each data element the year in which you began maintaining records and the number of years the records for that data element are maintained. (Refer to the instructions for further explanation and an example.)

CBI

☐

Data Element	Data are Maintained for:		Year in Which Data Collection Began	Number of Years Records Are Maintained
	Hourly Workers	Salaried Workers		
Date of hire	<u>X</u>	<u>X</u>	<u>1949</u>	<u>Permanent</u>
Age at hire	<u>X</u>	<u>X</u>	<u>1949</u>	<u>Permanent</u>
Work history of individual before employment at your facility	<u>X</u>	<u>X</u>	<u>1949</u>	<u>Permanent</u>
Sex	<u>X</u>	<u>X</u>	<u>1949</u>	<u>Permanent</u>
Race	<u>X</u>	<u>X</u>	<u>1949</u>	<u>Permanent</u>
Job titles	<u>X</u>	<u>X</u>	<u>1949</u>	<u>Permanent</u>
Start date for each job title	<u>X</u>	<u>X</u>	<u>1949</u>	<u>Permanent</u>
End date for each job title	<u>X</u>	<u>X</u>	<u>1949</u>	<u>Permanent</u>
Work area industrial hygiene monitoring data	<u>X</u>	<u>X</u>	<u>("U.K.")</u>	<u>Permanent</u>
Personal employee monitoring data	<u>X</u>	<u>X</u>	<u>("U.K.")</u>	<u>Permanent</u>
Employee medical history	<u>X</u>	<u>X</u>	<u>1949</u>	<u>Permanent</u>
Employee smoking history	<u>X</u>	<u>X</u>	<u>1980</u>	<u>Permanent</u>
Accident history	<u>X</u>	<u>X</u>	<u>1949</u>	<u>Permanent</u>
Retirement date	<u>X</u>	<u>X</u>	<u>1949</u>	<u>Permanent</u>
Termination date	<u>X</u>	<u>X</u>	<u>1949</u>	<u>Permanent</u>
Vital status of retirees	<u>X</u>	<u>X</u>	<u>("U.K.")</u>	<u>N.A.</u>
Cause of death data	<u>X</u>	<u>X</u>	<u>1949</u>	<u>Permanent</u>

☐ Mark (X) this box if you attach a continuation sheet.

9.02 In accordance with the instructions, complete the following table for each activity in which you engage.

CBI

☐

a.	b.	c.	d.	e.
<u>Activity</u>	<u>Process Category</u>	<u>Yearly Quantity (kg)</u>	<u>Total Workers</u>	<u>Total Worker-Hour</u>
Manufacture of the listed substance	Enclosed	<u>NA</u>	<u> </u>	<u> </u>
	Controlled Release	<u>NA</u>	<u> </u>	<u> </u>
	Open	<u>NA</u>	<u> </u>	<u> </u>
On-site use as reactant	Enclosed	<u>NA</u>	<u> </u>	<u> </u>
	Controlled Release	<u>NA</u>	<u> </u>	<u> </u>
	Open	<u>NA</u>	<u> </u>	<u> </u>
On-site use as nonreactant	Enclosed	<u>NA</u>	<u> </u>	<u> </u>
	Controlled Release	<u>NA</u>	<u> </u>	<u> </u>
	Open	<u>NA</u>	<u> </u>	<u> </u>
On-site preparation of products	Enclosed	<u>NA</u>	<u> </u>	<u> </u>
	Controlled Release	<u>20.3</u>	<u>5</u>	<u>("U.K.")</u>
	Open	<u>NA</u>	<u> </u>	<u> </u>

☐ Mark (X) this box if you attach a continuation sheet.

9.03 Provide a descriptive job title for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance.

CBI

☐

Labor Category

Descriptive Job Title

A

Potting Operator

B

~~Assemble/Wire~~

C

D

E

F

G

H

I

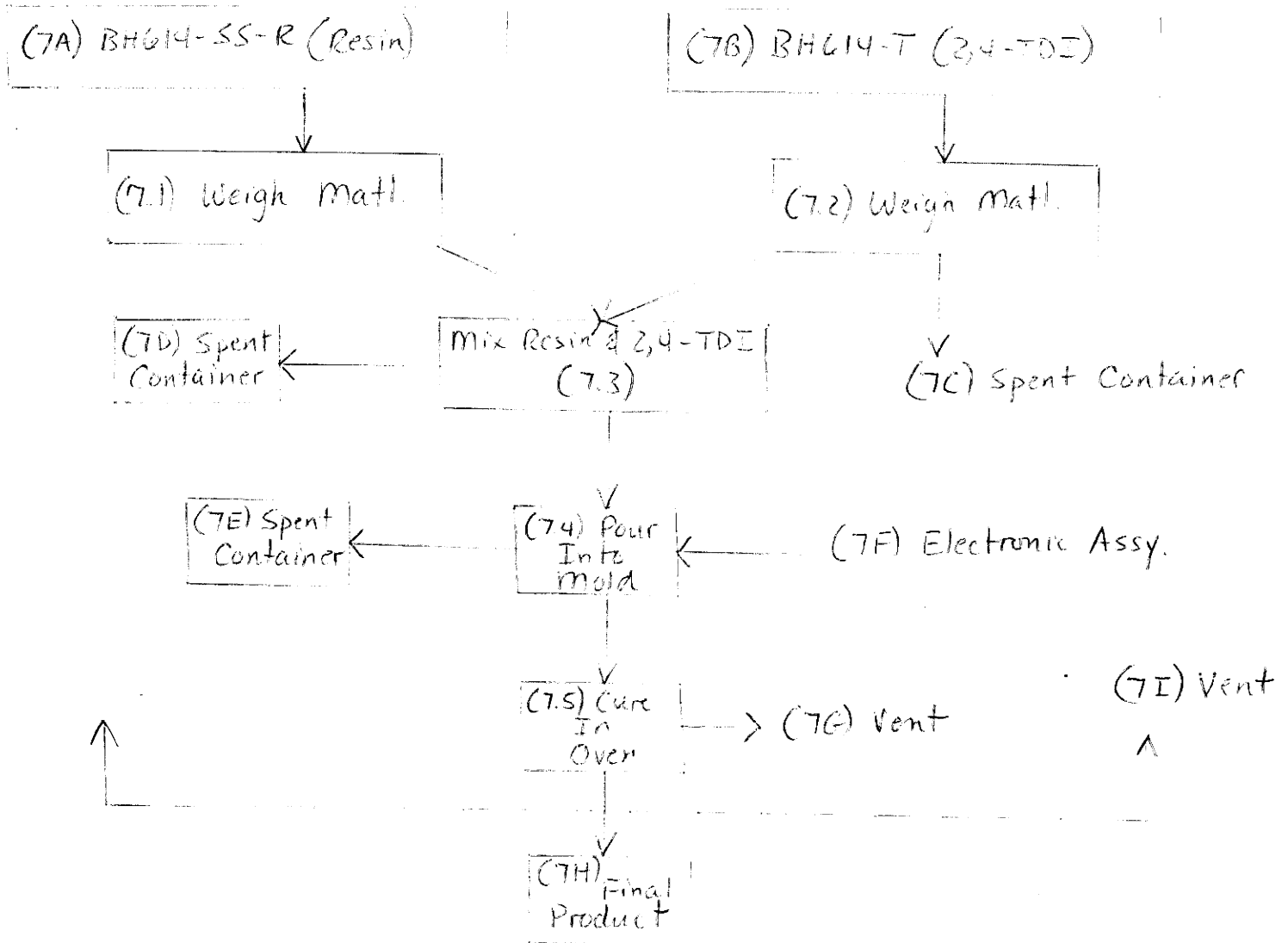
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☐ Mark (X) this box if you attach a continuation sheet.

9.04 In accordance with the instructions, provide your process block flow diagram(s) and indicate associated work areas.

CBI

☐ Process type Encapsulating / Potting
Operator Contacts Entire Area



☐ Mark (X) this box if you attach a continuation sheet.

- 9.05 Describe the various work area(s) shown in question 9.04 that encompass workers who may potentially come in contact with or be exposed to the listed substance. Add any additional areas not shown in the process block flow diagram in question 7.01 or 7.02. Photocopy this question and complete it separately for each process type.

CBI

☐

Process type

Encapsulating / Potting

Work Area ID

Description of Work Areas and Worker Activities

1

Hooded Work Station (Mix & Pour)

2

Vented Oven (Bake)

3

4

5

6

7

8

9

10

☐

Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

☐ Process type Encapsulating / Potting

Work area 1

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance ¹	Average Length of Exposure Per Day	Number of Days per Year Exposed
<u>A</u>	<u>5</u>	<u>Skin/Inhalation</u>	<u>OL</u>	<u>D, E</u>	<u>250</u>

¹Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)	SY = Sludge or slurry
GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)	AL = Aqueous liquid
SO = Solid	OL = Organic liquid
	IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

²Use the following codes to designate average length of exposure per day:

A = 15 minutes or less	D = Greater than 2 hours, but not exceeding 4 hours
B = Greater than 15 minutes, but not exceeding 1 hour	E = Greater than 4 hours, but not exceeding 8 hours
C = Greater than one hour, but not exceeding 2 hours	F = Greater than 8 hours

☐ Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type Encapsulating / Potting

Work area 2

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance ¹	Average Length of Exposure Per Day ²	Number of Days per Year Exposed
<u>A</u>	<u>5</u>	<u>Skin/Inhalation</u>	<u>OL</u>	<u>B, C</u>	<u>("U.K.")</u>

¹Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)
 GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)
 SO = Solid

SY = Sludge or slurry
 AL = Aqueous liquid
 OL = Organic liquid
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

²Use the following codes to designate average length of exposure per day:

A = 15 minutes or less
 B = Greater than 15 minutes, but not exceeding 1 hour
 C = Greater than one hour, but not exceeding 2 hours

D = Greater than 2 hours, but not exceeding 4 hours
 E = Greater than 4 hours, but not exceeding 8 hours
 F = Greater than 8 hours

☐ Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type Encapsulating/Potting

Work area 2

<u>Labor Category</u>	<u>8-hour TWA Exposure Level (ppm, mg/m³, other-specify)</u>	<u>15-Minute Peak Exposure (ppm, mg/m³, other-specify)</u>
<u>A</u>	<u>("U.K.")</u>	<u>("U.K.")</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

- 9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type Encapsulating / Potting

Work area

[illegible]

☐ Mark (X) this box if you attach a continuation sheet.

PART B WORK PLACE MONITORING PROGRAM

9.08 If you monitor worker exposure to the listed substance, complete the following table

CBI

☐

NA

<u>Sample/Test</u>	<u>Work Area ID</u>	<u>Testing Frequency (per year)</u>	<u>Number of Samples (per test)</u>	<u>Who Samples¹</u>	<u>Analyzed In-House (Y/N)</u>	<u>Number of Years Record Maintained</u>
Personal breathing zone	_____	_____	_____	_____	_____	_____
General work area (air)	_____	_____	_____	_____	_____	_____
Wipe samples	_____	_____	_____	_____	_____	_____
Adhesive patches	_____	_____	_____	_____	_____	_____
Blood samples	_____	_____	_____	_____	_____	_____
Urine samples	_____	_____	_____	_____	_____	_____
Respiratory samples	_____	_____	_____	_____	_____	_____
Allergy tests	_____	_____	_____	_____	_____	_____
Other (specify)	_____	_____	_____	_____	_____	_____
Other (specify)	_____	_____	_____	_____	_____	_____
Other (specify)	_____	_____	_____	_____	_____	_____

¹Use the following codes to designate who takes the monitoring samples:

A = Plant industrial hygienist

B = Insurance carrier

C = OSHA consultant

D = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

9.09 For each sample type identified in question 9.08, describe the type of sampling and analytical methodology used for each type of sample.

☐ Sample Type NA Sampling and Analytical Methodology

9.10 If you conduct personal and/or ambient air monitoring for the listed substance, specify the following information for each equipment type used.

CBI

☐ Equipment Type¹ NA Detection Limit² Manufacturer Averaging Time (hr) Model Number

¹Use the following codes to designate personal air monitoring equipment types:

- A = Passive dosimeter
- B = Detector tube
- C = Charcoal filtration tube with pump
- D = Other (specify) _____

Use the following codes to designate ambient air monitoring equipment types:

- E = Stationary monitors located within work area
- F = Stationary monitors located within facility
- G = Stationary monitors located at plant boundary
- H = Mobile monitoring equipment (specify) _____
- I = Other (specify) _____

²Use the following codes to designate detection limit units:

- A = ppm
- B = Fibers/cubic centimeter (f/cc)
- C = Micrograms/cubic meter (μ/m^3)

☐ Mark (X) this box if you attach a continuation sheet.

9.11 If you conduct routine medical tests for monitoring the health effects of exposure to the listed substance, specify the type and frequency of the tests.

CBI

☐

Test Description

NA

Frequency
(weekly, monthly, yearly, etc.)

☐ Mark (X) this box if you attach a continuation sheet.

PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type - Encapsulating / Potting

Work area 1

<u>Engineering Controls</u>	<u>Used (Y/N)</u>	<u>Year Installed</u>	<u>Upgraded (Y/N)</u>	<u>Year Upgraded</u>
Ventilation:				
Local exhaust	<u>Y</u>	<u>("U.K.")</u>	<u>N</u>	<u>NA</u>
General dilution	<u>Y</u>	<u>("U.K.")</u>	<u>N</u>	<u>NA</u>
Other (specify)				
_____	_____	_____	_____	_____
Vessel emission controls	<u>N</u>	_____	<u>N</u>	_____
Mechanical loading or packaging equipment	<u>N</u>	_____	<u>N</u>	_____
Other (specify)				
_____	_____	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type Encapsulating / Potting

Work area 2

<u>Engineering Controls</u>	<u>Used (Y/N)</u>	<u>Year Installed</u>	<u>Upgraded (Y/N)</u>	<u>Year Upgraded</u>
Ventilation:				
Local exhaust	<u>Y</u>	<u>("U.K.")</u>	<u>N</u>	<u>NA</u>
General dilution	<u>Y</u>	<u>("U.K.")</u>	<u>N</u>	<u>NA</u>
Other (specify)				
_____	_____	_____	_____	_____
Vessel emission controls	<u>N</u>	<u>N</u>		
Mechanical loading or packaging equipment	<u>N</u>	<u>N</u>		
Other (specify)				
_____	_____	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

9.13 Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type Encapsulating / Potting
 Work area 2

Equipment or Process Modification	Reduction in Worker Exposure Per Year (%)
<u>NA</u>	

☐ Mark (X) this box if you attach a continuation sheet.

9.13 Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type Encapsulating / Potting

Work area 1

Equipment or Process Modification	Reduction in Worker Exposure Per Year (%)
<u>NA</u>	

☐ Mark (X) this box if you attach a continuation sheet.

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

- 9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type Encapsulating / Potting

Work area 1

<u>Equipment Types</u>	<u>Wear or Use (Y/N)</u>
Respirators	<u>N</u>
Safety goggles/glasses	<u>Y</u>
Face shields	<u>N</u>
Coveralls	<u>N</u>
Bib aprons	<u>N</u>
Chemical-resistant gloves	<u>Y</u>
Other (specify)	
_____	_____
_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type Encapsulating / Potting

Work area 2

<u>Equipment Types</u>	<u>Wear or Use (Y/N)</u>
Respirators	<u>N</u>
Safety goggles/glasses	<u>Y</u>
Face shields	<u>N</u>
Coveralls	<u>N</u>
Bib aprons	<u>N</u>
Chemical-resistant gloves	<u>Y</u>
Other (specify)	
_____	_____
_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

- 9.15 If workers use respirators when working with the listed substance, specify for each process type, the work areas where the respirators are used, the type of respirators used, the average usage, whether or not the respirators were fit tested, and the type and frequency of the fit tests. Photocopy this question and complete it separately for each process type.

CBI

NA

☐ Process type

<u>Work Area</u>	<u>Respirator Type</u>	<u>Average Usage¹</u>	<u>Fit Tested (Y/N)</u>	<u>Type of Fit Test²</u>	<u>Frequency of Fit Tests (per year)</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

¹Use the following codes to designate average usage:

A = Daily
B = Weekly
C = Monthly
D = Once a year
E = Other (specify) _____

²Use the following codes to designate the type of fit test:

QL = Qualitative
QT = Quantitative

☐ Mark (X) this box if you attach a continuation sheet.

PART E WORK PRACTICES

- 9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.

CBI

☐

Process type Encapsulating / Potting

Work area 1

① Employee Follows Written Procedure

② Local Ventilation

- 9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type Encapsulating / Potting

Work area 1

<u>Housekeeping Tasks</u>	<u>Less Than Once Per Day</u>	<u>1-2 Times Per Day</u>	<u>3-4 Times Per Day</u>	<u>More Than 4 Times Per Day</u>
Sweeping	<u>✓</u>	<u> </u>	<u> </u>	<u> </u>
Vacuuming	<u>NA</u>	<u> </u>	<u> </u>	<u> </u>
Water flushing of floors	<u>NA</u>	<u> </u>	<u> </u>	<u> </u>
Other (specify)				
<u>Small Wipe-Ups</u>	<u>✓</u>	<u> </u>	<u> </u>	<u> </u>

☐ Mark (X) this box if you attach a continuation sheet.

PART E WORK PRACTICES

- 9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.

CBI

☐

Process type Encapsulating / Potting

Work area 2

① Employee Follows Written Procedure

② Local Ventilation

- 9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type

Work area

<u>Housekeeping Tasks</u>	<u>Less Than Once Per Day</u>	<u>1-2 Times Per Day</u>	<u>3-4 Times Per Day</u>	<u>More Than 4 Times Per Day</u>
Sweeping	<u>✓</u>			
Vacuuming	<u>NA</u>			
Water flushing of floors	<u>NA</u>			
Other (specify)				
<u>Small Wipe-Ups</u>	<u>✓</u>			

☐ Mark (X) this box if you attach a continuation sheet.

9.21 Do you have a written medical action plan for responding to routine or emergency exposure to the listed substance?

Routine exposure

Yes

No

Emergency exposure

Yes

No

If yes, where are copies of the plan maintained?

Routine exposure:

Emergency exposure:

9.22 Do you have a written leak and spill cleanup plan that addresses the listed substance? Circle the appropriate response.

☒ Yes

No

If yes, where are copies of the plan maintained? MSDS In Foreman's Office

Has this plan been coordinated with state or local government response organization
Circle the appropriate response.

Yes

☒ No

9.23 Who is responsible for monitoring worker safety at your facility? Circle the appropriate response.

Plant safety specialist

Insurance carrier

OSHA consultant

Other (specify)

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 10 ENVIRONMENTAL RELEASE

General Instructions:

Complete Part E (questions 10.23-10.35) for each non-routine release involving the listed substance that occurred during the reporting year. Report on all releases that are equal to or greater than the listed substance's reportable quantity value, RQ, unless the release is federally permitted as defined in 42 U.S.C. 9601, or is specifically excluded under the definition of release as defined in 40 CFR 302.3(22). Reportable quantities are codified in 40 CFR Part 302. If the listed substance is not a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and thus, does not have an RQ, then report releases that exceed 2,270 kg. If such a substance however, is designated as a CERCLA hazardous substance, then report those releases that are equal to or greater than the RQ. The facility may have answered these questions or similar questions under the Agency's Accidental Release Information Program and may already have this information readily available. Assign a number to each release and use this number throughout this part to identify the release. Releases over more than a 24-hour period are not single releases, i.e., the release of a chemical substance equal to or greater than a RQ must be reported as a separate release for each 24-hour period the release exceeds the RQ.

For questions 10.25-10.35, answer the questions for each release identified in question 10.23. Photocopy these questions and complete them separately for each release.

PART A GENERAL INFORMATION

10.01 Where is your facility located? Circle all appropriate responses.

CBI

- ☐ Industrial area
- ☒ Urban area
- ☒ Residential area
- Agricultural area
- Rural area
- Adjacent to a park or a recreational area
- Within 1 mile of a navigable waterway
- Within 1 mile of a school, university, hospital, or nursing home facility
- ☒ Within 1 mile of a non-navigable waterway
- Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

- 10.02 Specify the exact location of your facility (from central point where process unit is located) in terms of latitude and longitude or Universal Transverse Mercader (UTM) coordinates.

Latitude 42 ° 06 ' 45

Longitude 75 ° 58 ' 20

UTM coordinates Zone _____, Northing _____, Easting _____

- 10.03 If you monitor meteorological conditions in the vicinity of your facility, provide the following information.

Average annual precipitation inches/ye.

Predominant wind direction

- 10.04 Indicate the depth to groundwater below your facility.

Depth to groundwater meters

- 10.05 For each on-site activity listed, indicate (Y/N/NA) all routine releases of the listed substance to the environment. (Refer to the instructions for a definition Y, N, and NA.)

CBI

☐

On-Site Activity

Environmental Release

	<u>Air</u>	<u>Water</u>	<u>Land</u>
Manufacturing	<u>NA</u>	<u>NA</u>	<u>NA</u>
Importing	<u>NA</u>	<u>NA</u>	<u>NA</u>
Processing	<u>Y</u>	<u>NA</u>	<u>N</u>
Otherwise used	<u>NA</u>	<u>NA</u>	<u>NA</u>
Product or residual storage	<u>NA</u>	<u>NA</u>	<u>NA</u>
Disposal	<u>NA</u>	<u>NA</u>	<u>NA</u>
Transport	<u>NA</u>	<u>NA</u>	<u>NA</u>

☐ Mark (X) this box if you attach a continuation sheet.

10.08 Describe the control technologies used to minimize release of the listed substance for each process stream containing the listed substance as identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each process type.

CBI

☐ Process type Encapsulating / Potting

<u>Stream ID Code</u>	<u>Control Technology</u>	<u>Percent Efficiency</u>
<u>7C</u>	<u>None</u>	<u>NA</u>
<u>7D</u>	<u>None</u>	
<u>7E</u>	<u>None</u>	
<u>7G</u>	<u>None</u>	
<u>7I</u>	<u>None</u>	<u>V</u>

☐ Mark (X) this box if you attach a continuation sheet.

☐ Mark (X) this box if you attach a continuation sheet.

10.10 Emission Characteristics -- Characterize the emissions for each Point Source ID Code identified in question 10.09 by completing the following table.

CBI

☐

("U.K.")

Point Source ID Code	Physical State ¹	Average Emissions (kg/day)	Frequency ² (days/yr)	Duration ³ (min/day)	Average Emission Factor ⁴	Maximum Emission Rate (kg/min)	Maximum Emission Rate Frequency (events/yr)	Maximum Emission Rate Duration (min/event)
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

¹Use the following codes to designate physical state at the point of release:

G = Gas; V = Vapor; P = Particulate; A = Aerosol; O = Other (specify) _____

²Frequency of emission at any level of emission

³Duration of emission at any level of emission

⁴Average Emission Factor -- Provide estimated (\pm 25 percent) emission factor (kg of emission per kg of production of listed substance)

10.11 Stack Parameters -- Identify the stack parameters for each Point Source ID Code identified in question 10.09 by completing the following table.

CBI

☐

("U.K.")

Point Source ID Code	Stack height(m)	Stack Inner Diameter (at outlet) (m)	Exhaust Temperature (°C)	Emission Exit Velocity (m/sec)	Building Height(m) ¹	Building Width(m) ²	Vent. Type ³

¹Height of attached or adjacent building

²Width of attached or adjacent building

³Use the following codes to designate vent type:

H = Horizontal

V = Vertical

☐ Mark (X) this box if you attach a continuation sheet.

10.12 If the listed substance is emitted in particulate form, indicate the particle size distribution for each Point Source ID Code identified in question 10.09. Photocopy this question and complete it separately for each emission point source

CBI

☐

NA

Point source ID code

Size Range (microns)

Mass Fraction (% ± % precision)

< 1

≥ 1 to < 10

≥ 10 to < 30

≥ 30 to < 50

≥ 50 to < 100

≥ 100 to < 500

≥ 500

Total = 100%

☐ Mark (X) this box if you attach a continuation sheet.

PART C FUGITIVE EMISSIONS

- 10.13 Equipment Leaks -- Complete the following table by providing the number of equipment types listed which are exposed to the listed substance and which are in service according to the specified weight percent of the listed substance passing through the component. Do this for each process type identified in your process block or residual treatment block flow diagram(s). Do not include equipment types that are not exposed to the listed substance. If this is a batch or intermittently operated process, give an overall percentage of time per year that the process type is exposed to the listed substance. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type
Percentage of time per year that the listed substance is exposed to this process type

Equipment Type	Number of Components in Service by Weight Percent of Listed Substance in Process Stream					Greater than 99%
	Less than 5%	5-10%	11-25%	26-75%	76-99%	
Pump seals ¹						
Packed						
Mechanical						
Double mechanical ²						
Compressor seals ¹						
Flanges						
Valves						
Gas ³						
Liquid						
Pressure relief devices ⁴ (Gas or vapor only)						
Sample connections						
Gas						
Liquid						
Open-ended lines ⁵ (e.g., purge, vent)						
Gas						
Liquid						

¹List the number of pump and compressor seals, rather than the number of pumps or compressors

10.13 continued on next page

☐ Mark (X) this box if you attach a continuation sheet.

10.13 (continued)

²If double mechanical seals are operated with the barrier (B) fluid at a pressure greater than the pump stuffing box pressure and/or equipped with a sensor (S) that will detect failure of the seal system, the barrier fluid system, or both, indicate with a "B" and/or an "S", respectively

³Conditions existing in the valve during normal operation

⁴Report all pressure relief devices in service, including those equipped with control devices

⁵Lines closed during normal operation that would be used during maintenance operations

10.14 Pressure Relief Devices with Controls -- Complete the following table for those pressure relief devices identified in 10.13 to indicate which pressure relief devices in service are controlled. If a pressure relief device is not controlled, enter "None" under column c.

CBI

☐

a. Number of Pressure Relief Devices	b. Percent Chemical in Vessel ¹	c. Control Device	d. Estimated Control Efficiency ²
		NA	

¹Refer to the table in question 10.13 and record the percent range given under the heading entitled "Number of Components in Service by Weight Percent of Listed Substance" (e.g., <5%, 5-10%, 11-25%, etc.)

²The EPA assigns a control efficiency of 100 percent for equipment leaks controlled with rupture discs under normal operating conditions. The EPA assigns a control efficiency of 98 percent for emissions routed to a flare under normal operating conditions

☐ Mark (X) this box if you attach a continuation sheet.

10.15 Equipment Leak Detection -- If a formal leak detection and repair program is in place, complete the following table regarding those leak detection and repair procedures. Photocopy this question and complete it separately for each process type.

CBI

NA

☐ Process type

Equipment Type	Leak Detection Concentration (ppm or mg/m ³) Measured at	Detection Device	Frequency of Leak Detection (per year)	Repairs Initiated (days after detection)	Repairs Complete (days aft initiated)
	Inches from Source				
Pump seals					
Packed					
Mechanical					
Double mechanical					
Compressor seals					
Flanges					
Valves					
Gas					
Liquid					
Pressure relief devices (gas or vapor only)					
Sample connections					
Gas					
Liquid					
Open-ended lines					
Gas					
Liquid					

¹Use the following codes to designate detection device:

POVA = Portable organic vapor analyzer

FPM = Fixed point monitoring

0 = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

☐ Mark (X) this box if you attach a continuation sheet.

10.16 Raw Material, Intermediate and Product Storage Emissions - - Complete the following table by providing the information on each liquid raw material, intermediate, and product storage vessel containing the listed substance as identified in your process block or residual treatment block flow diagram(s).

CBI

☐

Vessel Type ¹	Floating Roof Seals ²	Composition of Stored Materials ³	Throughput (liters per year)	Vessel Filling Rate (gpm)	Vessel Filling Duration (min)	Vessel Inner Diameter (m)	Vessel Height (m)	Operating Vessel Volume (l)	Vessel Emission Controls	Design Flow Rate	Vent Diameter (cm)	Control Efficiency (%)	Basis for Estimate ⁶

¹Use the following codes to designate vessel type:

- F = Fixed roof
- CIF = Contact internal floating roof
- NCIF = Noncontact internal floating roof
- EFR = External floating roof
- P = Pressure vessel (indicate pressure rating)
- H = Horizontal
- U = Underground

²Use the following codes to designate floating roof seals:

- MS1 = Mechanical shoe, primary
- MS2 = Shoe-mounted secondary
- MS2R = Rim-mounted, secondary
- LM1 = Liquid-mounted resilient filled seal, primary
- LM2 = Rim-mounted shield
- LMW = Weather shield
- VM1 = Vapor mounted resilient filled seal, primary
- VM2 = Rim-mounted secondary
- VMW = Weather shield

³Indicate weight percent of the listed substance. Include the total volatile organic content in parenthesis

⁴Other than floating roofs

⁵Gas/vapor flow rate the emission control device was designed to handle (specify flow rate units)

⁶Use the following codes to designate basis for estimate of control efficiency:

- C = Calculations
- S = Sampling

PART E NON-ROUTINE RELEASES

10.23 Indicate the date and time when the release occurred and when the release ceased or was stopped. If there were more than six releases, attach a continuation sheet and list all releases.

<u>Release</u>	<u>Date Started</u>	<u>Time (am/pm)</u>	<u>Date Stopped</u>	<u>Time (am/pm)</u>
1				
2				
3				
4				
5				
6				

10.24 Specify the weather conditions at the time of each release.

<u>Release</u>	<u>Wind Speed (km/hr)</u>	<u>Wind Direction</u>	<u>Humidity (%)</u>	<u>Temperature (°C)</u>	<u>Precipitation (Y/N)</u>
1					
2					
3					
4					
5					
6					

☐ Mark (X) this box if you attach a continuation sheet.

Attach continuation sheets for sections of this form and optional information after this page. In column 1, clearly identify the continuation sheet by listing the question number to which it relates. In column 2, enter the inclusive page numbers of the continuation sheet for each question number.

[illegible]

☐ Mark (X) this box if you attach a continuation sheet.

GENERAL ELECTRIC

General Electric Company

600 Main Street

Johnson City, NY 13790



FIRST CLASS MAIL

U.S. Environmental Protection Agency
401 M Street, SE
Washington, D.C. 20460

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